



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

17 MAR 2000

MEMORANDUM

SUBJECT: Response to National Remedy Review Board Recommendations
for the Palos Verdes Shelf

FROM: Keith Takata, Director *Keith Takata*
Superfund Division, EPA Region 9

TO: Bruce Means, Chair
National Remedy Review Board
Office of Solid Waste and Emergency Response

Purpose

This memorandum conveys the Region's response to the advisory recommendations of the National Remedy Review Board (NRRB) regarding the proposed removal action for the Palos Verdes Shelf. Those recommendations were conveyed to the Region in your memorandum to me dated October 26, 1998.

The proposed action which the Region presented to the NRRB in September 1998 consisted of in-situ capping of a portion of the Palos Verdes Shelf, accompanied by institutional controls (enforcement, public outreach/education and monitoring). Since that time, we have decided to propose only the institutional controls portion of that response action and to undertake a pilot in-situ capping project as part of our continuing investigation of the feasibility of capping the contaminated sediments on the Palos Verdes Shelf. The primary objective of the pilot project is to evaluate cap construction methods and short-term impacts that occur during cap construction. As a result, you will see in our responses below that we have not yet fully acted on many of the NRRB's recommendations (i.e., those that deal with capping), although we intend to do so as we continue our consideration of capping.

Response to NRRB Advisory Recommendations

- Comment: The board supports the region in its efforts to address the contaminated sediments because of the DDT and PCB contamination levels at the Palos Verdes Shelf. The board also agrees with the removal approach proposed by the region, given the site-specific circumstances and the potential availability of clean sediments for capping from nearby navigational dredging projects.

Response: We acknowledge and appreciate the NRRB's support of our approach. As described above, the Region has decided to limit the proposed action to institutional

controls only at this time and to undertake a pilot in-situ capping project. We do anticipate using clean sediments from an ongoing navigation dredging project in the pilot capping project.

- **Comment:** For this proposed action, the region seeks to prevent or reduce exposure to contaminants and prevent contaminant migration by constructing a cap over portions of the contaminated areas. The information presented to the board did not delineate the areas to be capped in terms of a risk reduction goal (e.g., DDT flux reduction in areas of high biological activity). The board recommends that the region more clearly explain how capping selected areas achieves risk reduction goals. The region should use this information to delineate the areal extent of the cap and to support the discussion on the cost effectiveness of this proposed action.

Response: The Region's current proposed action (institutional controls) for the contaminated sediments on the Palos Verdes Shelf is intended to address (i.e., achieve a reduction of) only the human health risks. These risks are due to the consumption of contaminated fish, which are present both on the Shelf and in adjacent waters. The proposed controls will not reduce contaminant concentrations in fish that are currently bioaccumulating contaminants from the Palos Verdes Shelf, nor will they address ecological risks posed by the site.

In developing any future proposals for in-situ capping, we will clarify the link between contaminant levels in sediment and response action objectives and indicate how this information was used in determining the recommended area and thickness of the cap. Contaminant levels in almost all surficial Palos Verdes Shelf sediments located inshore of the shelf break are high enough to result in unacceptable fish tissue concentrations, particularly in bottom-feeding fish such as the white croaker.

- **Comment:** The board recognizes the technical difficulties and uncertainties involving the effectiveness of sediment capping at great depths. However, the region has indicated that, in addition to modelling results demonstrating the likely effectiveness of capping, it has site-specific sediment characteristic analyses that suggest capping will be effective. The board recommends that the region summarize this information in the EE/CA supporting the decision.

Response: In the current EE/CA report and supporting documents, we discuss the approach used by the U. S. Army Corps of Engineers Waterways Experiment Station to evaluate the feasibility and effectiveness of capping. That discussion includes a description of how site-specific geophysical and chemical data, along with data from laboratory experiments using Palos Verdes Shelf sediments, was used in the analysis. However, the results from the upcoming pilot capping study will provide the most meaningful information on how site-specific sediments behave during and after in-situ capping, and this information will be discussed in detail in future EPA reports that support any recommendation regarding capping.

- Comment: The board understands that the region's overall strategy for the site includes capping the contaminated sediments as an initial response action to reduce the exposure and risks associated with the sediments. The board further understands that the region will evaluate the effectiveness of the proposed capping action in achieving these risk reduction goals and, based on this evaluation, determine the need for further action. To perform this evaluation, the board recommends that the region identify in the EE/CA the performance criteria it would use to evaluate the cap effectiveness over time.

Response: Given the nature of our current proposed action, we have not developed a discussion in the EE/CA of performance criteria that would be used to evaluate cap effectiveness. Generally speaking, these criteria would be defined for the cap itself in terms of surface sediment concentrations and water column concentrations. We intend to discuss cap performance criteria in more detail in future documents regarding capping.

Current Proposed Action

The Region is proposing to implement institutional controls as a response action to address existing threats to human health. The proposed action differs somewhat from the institutional controls alternative described in the August 1998 information package for the NRRB, and we wanted to outline those differences for you.

The components of the proposed institutional controls (namely, enforcement, public outreach/education and monitoring) have not changed since our 1998 presentation to the NRRB. However, we have continued since then to refine the scope of the activities and in particular have had the opportunity to discuss the enforcement component with the California Department of Fish and Game (CDFG). Officials at CDFG have told us that, given the large area of the Palos Verdes Shelf and the need to address both commercial and recreational fishing restrictions, an effective enforcement program may require more resources than we assumed in our 1998 write-up. We have used their detailed recommendations in revising the staffing estimate for the enforcement component, viewing it as an "upper bound" estimate of staffing requirements, which has in turn increased the cost of this activity.

We have also revised the time frame covered by the proposed action (now 10 years rather than 30) based on our estimate of the time required for EPA to determine, based on monitoring data and/or further investigation of the Palos Verdes Shelf, whether any additional long-term cleanup actions (including the need to continue institutional controls) would be necessary to address site risks. Although we're still refining the cost estimate, the current estimated costs are \$19.9 million for enforcement, \$0.4 million for public outreach/education, and \$1.5 million for monitoring, for a total of approximately \$22 million.

We appreciate this opportunity to respond to the NRRB's recommendation and would be happy to answer any questions you regarding the above.